

1 **CLAIMS**

2 **1.** A system comprising:

3 an event prediction module operably associated with multiple media
4 content samples that are to be rendered for a user, the module being configured to:
5 receive event notification requests from an application pertaining to events
6 associated with the media content samples; and
7 predict rendition times associated with the individual events.

8
9 **2.** The system of claim 1, wherein the event prediction module
10 comprises an event list that stores information associated with events and
11 associated event rendition times.

12
13 **3.** The system of claim 1, wherein the event prediction module is
14 configured to:
15 generate event notifications in accordance with their predicted rendition
16 times; and
17 send the notifications to an application.

18
19 **4.** The system of claim 1, wherein the event prediction module predicts
20 the rendition times by taking into account one or more presentation rates that
21 define a rate at which individual media content samples are to be rendered.

22
23 **5.** The system of claim 1, wherein the event prediction module predicts
24 the rendition times by performing linear interpolation.
25

1 **6.** A system comprising:
2 multiple filters defining a filter graph that is configured to process multiple
3 media content samples, the filter graph comprising one or more render filters for
4 rendering media content samples; and
5 an event prediction module operably associated with the filter graph, the
6 module being configured to:
7 receive event notification requests from an application pertaining to
8 events associated with the media content samples; and
9 predict rendition times associated with the individual events.

10
11 **7.** The system of claim 6, wherein the event prediction module is
12 independent of any of the render filters.

13
14 **8.** The system of claim 6, wherein the event prediction module is
15 located upstream of any of the render filters.

16
17 **9.** The system of claim 6, wherein the event prediction module
18 comprises part of a filter upstream of any of the render filters.

19
20 **10.** The system of claim 6, wherein the event prediction module
21 comprises part of the application.

1 **11.** The system of claim 6, wherein the event prediction module is
2 configured to generate event notifications in accordance with the predicted
3 rendition times, and send the notifications to an application, the event prediction
4 module being located so that the notifications are not back propagated through
5 multiple filters of the filter graph.

6
7 **12.** A system comprising:
8 multiple filters defining a filter graph that is configured to process multiple
9 media content samples;
10 the filter graph comprising:
11 one or more render filters for rendering media content samples; and
12 a source filter for receiving media content from a media source;
13 the source filter comprising an event prediction module configured
14 to:
15 receive event notification requests from an application
16 pertaining to events associated with the media content samples; and
17 predict rendition times associated with the individual events.

18
19 **13.** The system of claim 12, wherein the event prediction module
20 comprises an event list that stores events and their associated rendition times.
21
22
23
24
25

1 **14.** The system of claim 12, wherein the event prediction module is
2 configured to:

3 generate event notifications in accordance with the predicted rendition
4 times; and

5 send the notifications to the application.

6
7 **15.** The system of claim 12, wherein the event prediction module
8 predicts the rendition times by taking into account one or more presentation rates
9 that define a rate at which individual data samples are to be rendered.

10
11 **16.** The system of claim 12, wherein the event prediction module
12 predicts the rendition times by performing linear interpolation.

13
14 **17.** A method comprising:
15 receiving an event notification request from an application, the event
16 notification request requesting a notification pertaining to events associated with
17 one or more media content samples that are to be rendered; and
18 predicting rendition times associated with the individual events.

19
20 **18.** The method of claim 17 further comprising storing information
21 associated with events and associated event rendition times in an event list.

1 **19.** The method of claim 17 further comprising sending at least one
2 event notification to the application responsive to an associated event having been
3 predicted to occur at a particular rendition time.

4
5 **20.** The method of claim 17, wherein the act of predicting is
6 accomplished, at least in part, by taking into account one or more presentation
7 rates at which individual content samples are to be rendered.

8
9 **21.** The method of claim 17, wherein the act of predicting is
10 accomplished, at least in part, by performing at least one linear interpolation
11 operation.

12
13 **22.** One or more computer-readable media having computer-readable
14 instructions thereon which, when executed by one or more processors, cause the
15 one or more processors to:

16 receive an event notification request from an application, the event
17 notification request requesting a notification pertaining to events associated with
18 one or more media content samples that are to be rendered;

19 predict rendition times associated with the individual events; and

20 send at least one event notification to the application responsive to an
21 associated event having been predicted to occur at a particular rendition time.

1 **23.** The computer-readable media of claim 22, wherein the computer-
2 readable instructions cause the one or more processors to predict rendition times
3 by taking into account one or more presentation rates at which individual content
4 samples are to be rendered.

5
6 **24.** The computer-readable media of claim 22, wherein the computer-
7 readable instructions cause the one or more processors to predict rendition times
8 by performing at least one linear interpolation operation.

9
10 **25.** A method comprising:
11 providing multiple filters defining a filter graph that is configured to
12 process multiple media content samples, the filter graph comprising one or more
13 render filters for rendering media content samples;
14 receiving event notification requests from an application pertaining to
15 events associated with the media content samples; and
16 predicting rendition times associated with the individual events.

17
18 **26.** The method of claim 25, wherein the act of predicting is performed
19 independent of any information provided by said one or more render filters.

20
21 **27.** The method of claim 25, wherein event notification requests are not
22 provided to the one or more render filters.

1 **28.** The method of claim 25, wherein the act of receiving is performed
2 by a filter upstream of the one or more render filters.

3
4 **29.** The method of claim 25, wherein the act of receiving is
5 accomplished upstream of the one or more render filters.

6
7 **30.** One or more computer-readable media having computer-readable
8 instructions thereon which, when executed by one or more processors, cause the
9 one or more processors to:

10 provide multiple filters defining a filter graph that is configured to process
11 multiple media content samples, the filter graph comprising one or more render
12 filters for rendering media content samples;

13 receive event notification requests from an application pertaining to events
14 associated with the media content samples; and

15 predict rendition times associated with the individual events.

16
17 **31.** The computer-readable media of claim 30, wherein the computer-
18 readable instructions cause the one or more processors to predict rendition times
19 independent of any information provided by said one or more render filters.

20
21 **32.** A method comprising:

22 providing multiple filters defining a filter graph that is configured to
23 process multiple media content samples, the filter graph comprising one or more
24 render filters for rendering media content samples;

1 receiving event notification requests from an application pertaining to
2 events associated with the media content samples;
3 predicting rendition times associated with individual events; and
4 sending event notifications to the application responsive to an associated
5 event having been predicted to occur at a particular rendition time.
6

7 **33.** The method of claim 32, wherein said act of predicting is performed
8 independent of any information provided by said one or more render filters.
9

10 **34.** The method of claim 33, wherein said act of sending is performed
11 independent of an associated event actually occurring.
12

13 **35.** The method of claim 32, wherein said event notification requests are
14 not provided to the one or more render filters.
15

16 **36.** The method of claim 35, wherein said act of sending does not
17 originate at any of the render filters.
18

19 **37.** The method of claim 32, wherein said act of receiving is performed
20 by a filter upstream of the one or more render filters.
21

22 **38.** The method of claim 37, wherein said act of sending is performed
23 by said upstream filter.
24
25

1 **39.** The method of claim 32, wherein said receiving is accomplished
2 upstream of the one or more render filters.

3
4 **40.** The method of claim 39, wherein said act of sending originates and
5 is performed upstream of said one or more render filters.

6
7 **41.** A method comprising:
8 providing multiple filters defining a filter graph that is configured to
9 process multiple media content samples, the filter graph comprising one or more
10 render filters for rendering media content samples and a source filter for receiving
11 media content from a media source, the source filter comprising an event
12 prediction module;

13 receiving event notification requests from an application pertaining to
14 events associated with the media content samples;

15 predicting, with the event prediction module, rendition times associated
16 with individual events; and

17 sending event notifications to the application responsive to an associated
18 event having been predicted to occur at a particular rendition time.

19
20 **42.** The method of claim 41, wherein said act of predicting is
21 accomplished by taking into account one or more presentation rates that define a
22 rate at which individual samples are rendered.